Remarks

Claims 1-11 were previously pending in the subject application. By this Amendment new claims 12-18 have been added, claim 10 has been amended, and claims 6 and 11 have been canceled. Accordingly, claims 1-5, 7-10, and 12-18 are now before the examiner for consideration. In view of the amendments to the claims and the remarks below, favorable consideration of the claims now presented is earnestly solicited.

The specification has been amended to now indicate that U.S. patent application Serial No. 09/336,286, with respect to which the subject application is a divisional of and claims priority to, has now issued as U.S. Patent No. 6,218,280.

The specification of the subject application has been rejected under 35 U.S.C. §112, first paragraph. In the Office Action it is stated that the subject specification is replete with terms, which are not clear, concise and exact. The applicant respectfully traverses this ground for rejection.

Referring to the cites of the specification provided on page 2 of the Office Action, the specification states: at page 5, lines 10-11, "an apparatus which can alternately perform MOVPE and HVPE, without removing the substrate"; at page 5, lines 25-26, "ability to deposit GaN by either MOVPE or HVPE in the same reactor"; at page 6, lines 28-29, and "the step of growing GaN by MOVPE and the step of growing GaN by HVPE can each take place in the same reactor." The specification also states: at page 8, lines 21-24, "a device ... having a means for performing metal organic vapor phase epitaxy (MOVPE) on the surface of the substrate and a means for performing hydride vapor phase epitaxy (HVPE) on a surface of a substrate" (underline added for emphasis); at page 8, line 24, "[t]he device can transition from MOVPE to HVPE *in* situ" (underline added for emphasis); at page 8, lines 25-26, "the substrate does not have to be removed from the device between MOVPE and HVPE" (underline added for emphasis); at page 8, lines 26-27, "the substrate can be maintained at elevated temperatures during the transition from MOVPE to HVPE;" and at page 10, lines 20-21, "the substrate can be moved back and forth between MOVPE and HVPE growing apparatus, while maintaining the substrate in an appropriate environment". The applicant asserts that the cited description, in conjunction with the entirety of the specification and Figures, provides written description of the subject invention as claimed as to enable any person skilled in the

art to make and use the subject invention. In particular, the specification teaches a variety of embodiments, including, in the Examiner's terminology: an apparatus that can perform both MOVPE and HVPE, a cluster tool that performs both MOVPE and HVPE, and a chamber that performs both MOVPE and HVPE. The claims presented are directed to, at least, one or more of these embodiments. Accordingly, the applicant respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. §112, first paragraph.

Claims 1-11 have been objected to due to informalities. The applicant refers to the citations from the specification referred to above in reference to the discussion of 35 U.S.C. §112, and, in particular, to the use of "device" in the description of the subject invention. In addition, the applicant submits that "device" and "apparatus" are used interchangeably in the specification, as would be apparent to one skilled in the art. Therefore, the applicant respectfully requests reconsideration and withdrawal of the objection to claims 1-11.

Claim 1 has been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. In the Office Action it is noted that the scope of claim 1 is indefinite due to the ambiguity surrounding the corresponding structure to the means. In view of the remarks above, the applicant argues claim 1 is directed to a device comprising a means for performing MOVPE on a surface of a substrate and a means for performing HVPE on the surface of the substrate. As discussed above, there are a variety of embodiments of the subject invention onto which claim 1 reads. Accordingly, the applicant respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. §112, second paragraph.

Claims 1-11 have been rejected under 35 U.S.C. §102(a) as being anticipated by Kryliouk *et al.* WO 99/66565. The applicant respectfully traverses this grounds for rejection because the Kryliouk *et al.* international application was published after the filing date of USSN 09/336,286, filed June 18, 1999, now U.S. Patent No. 6,218,280, of which the subject application is a divisional and claims priority to the filing date of. Furthemore, the subject application claims priority, through the USSN 09/336,286, from provisional application USSN 60/098,906, filed June 18, 1998, and from provisional application USSN 60/124,252, filed March 12, 1999. Accordingly, this reference is not available as prior art under 35 U.S.C. §102.

Claims 1, 8 and 9 have been rejected under 35 U.S.C. §102(b) as being anticipated by Vaudo *et al.* (U.S. Patent No. 6,533,874). The applicant respectfully traverses this grounds for rejection.

It is basic premise of patent law that, in order to anticipate, a single prior art reference must disclose within its four corners, each and every element of the claimed invention. In *Lindemann v. American Hoist and Derrick Co.*, 221 USPQ 481 (Fed. Cir. 1984), the court stated:

> Anticipation requires the presence in a single prior art reference, disclosure of each and every element of the claimed invention, arranged as in the claim. *Connell v. Sears Roebuck and Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983); *SSIH Equip. S.A. v. USITC*, 718 F.2d 365, 216 USPQ 678 (Fed. Cir. 1983). In deciding the issue of anticipation, the [examiner] must identify the elements of the claims, determine their meaning in light of the specification and prosecution history, and identify corresponding elements disclosed in the allegedly anticipating reference. *SSIH, supra*; *Kalman [v. Kimberly-Clarke*, 713 F.2d 760, 218 USPQ 781 (Fed. Cir. 1983)] (emphasis added). 221 USPQ at 485.

In *Dewey & Almy Chem. Co. v. Mimex Co.*, Judge Learned Hand wrote:

> No doctrine of the patent law is better established than that a prior patent . . . to be an anticipation must bear within its four corners adequate directions for the practice [of the subsequent invention] . . . if the earlier disclosure offers no more than a starting point . . . if it does not inform the art without more how to practice the new invention, it has not correspondingly enriched the store of common knowledge, and it is not an anticipation. 124 F.2d 986, 990; 52 USPQ 138 (2nd Cir. 1942).

The Vaudo *et al.* reference does not teach a device comprising, a means for performing MOVPE and a means for performing HVPE. Rather the Vaudo *et al.* reference teaches, at column 6, lines 37-38, "[t]he growth of the (Ga, Al, In) N materials may be carried out in a hydride vapor phase epitoxy reactor", and, at column 6, lines 47-52, "[t]he protective layer may be formed by any suitable technique such as ... (MOVPE), etc." Figure 2 of the Vaudo *et al.* reference, as taught at column 8, lines 61-63 and column 10, lines 55-59, shows a HVPE reactor. There is no teaching of a device comprising a means for performing MOVPE and a means for perfoming HVPE. Rather, the Vaudo

et al. referenced teaches the use of two different devices for MOVPE and HVPE. In fact, at column 15, lines 39-42, the Vaudo *et al.* teaches [t]he HVPE layers were initially cleaned in methanol, loaded into an MOCVD reactor and ...", emphasizing that the substrate was removed from the HVPE growing apparatus prior to being loaded into an MOCVD reactor. As the Vaudo *et al.* reference does not teach each and every limitation of claims 1, 8, and 9, the applicant asserts a proper 35 U.S.C. §102(b) rejection has not been presented, and therefore, respectfully requests reconsideration and withdrawal of the rejection of claims 1, 8, and 9 under 35 U.S.C. §102(b).

Claims 2, 3, 5, and 6 have been rejected under 35 U.S.C. §103(a) as being umpatentable over Vaudo *et al.* (U.S. Patent No. 6,533,874). The applicant respectfully traverses this grounds for rejection. The applicant refers to the remarks presented above with respect to the rejection of claims 1, 8, and 9 under 35 U.S.C. §102(b). Furthermore, there is no teaching of: a device transitioning from MOVPE to HVPE *in situ*; a device wherein the substrate does not have to be removed from the device between MOVPE and HVPE; or a device wherein the substrate can be maintained at elevated temperatures during transition from MOVPE to HVPE. The Office Action states it would have been obvious to one skilled in the art to combine an apparatus to include the functionalities of both MOVPE and HVPE. The applicant does not understand what "combine an apparatus" means. Again, the Vaudo *et al.* reference does not teach a device comprising a means for performing MOVPE and a means for performing HVPE. Rather, the Vaudo *et al.* reference teaches MOVPE and HVPE are performed by different devices. Accordingly, a *prima facie* case of obviousness has not been presented. Therefore, the applicant respectfully requests reconsideration and withdrawal of the rejection of claims 2-3 and 5-6 under 35 U.S.C. §103(a).

In view of the foregoing remarks and the amendment above, the applicant believes that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

The applicant also invites the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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